

SERIAL NO.: 10/762,657  
Attorney Docket No. CHEN-0002

## CLAIMS LISTING

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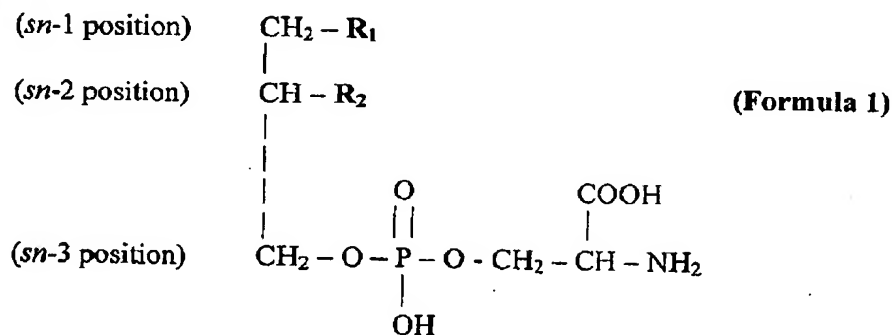
DEC 22 2006

- 1.(currently amended) A method for the preparation of highly-polyunsaturated fatty acid-containing phosphatidylserine and phosphatidic acid, the method comprising:  
combining an L-Serine with a fish liver phosphatidylcholine;  
phospholipase D-catalyzed transphosphatidylating the L-Serine and the fish liver phosphatidylcholine; and  
producing a polyunsaturated fatty acid-containing phosphatidylserine from the transphosphatidylating step.  
by the step of phospholipase D-catalyzed transphosphatidylation of a fish liver phosphatidylcholine at the presence of an L-Serine.
- 2.(currently amended) A method for the preparation of highly-polyunsaturated fatty acid-containing phosphatidylserine and phosphatidic acid, the method comprising:  
combining an L-Serine with purified phosphatidylcholine from fish livers;  
manufactured by the phospholipase D-catalyzed transphosphatidylating ion of the an L-Serine and a fish liver phosphatidylcholine;  
producing polyunsaturated fatty acid-containing phosphatidylserine from the phospholipase D-catalyzed transphosphatidylating step.
3. (currently amended) A method for the A-preparation of highly-polyunsaturated fatty acid-containing phosphatidylserine and phosphatidic acid, the method comprising:  
combining L-Serine with fish liver phosphatidylcholine containing fish liver crude phospholipids;  
by the step of phospholipase D-catalyzed transphosphatidylating the phosphotidylcholine and L-Serine on of a fish liver lipid mixture that contain fish liver phosphatidylcholine at the presence of a L-Serine;  
producing a polyunsaturated fatty acid-containing phosphatidylserine from the phospholipase D-catalyzed transphosphatidylating step.

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4. (currently amended) ~~A highly polyunsaturated fatty acid-containing phosphatidylserine and phosphatidic acid manufactured by the phospholipase D-catalyzed transphosphatidylolation of an L-Serine and a fish liver lipid mixture.~~ A method of preparing phosphatidylserine species, the method comprising:

phospholipase D-catalyzed transphosphatidylating of L-Serine and fish liver phosphatidylcholine to produce a phosphatidylserine species as shown in Formula 1:



wherein R<sub>1</sub> is a mixture of acyl fatty chains, linked to the *sn*-1 position, selected from the group consisting of COOC<sub>15</sub>H<sub>31</sub> (acyl fatty chain; palmitic acid; 16:0), COOC<sub>17</sub>H<sub>35</sub> (acyl fatty chain; stearic acid; 18:0), and COOC<sub>17</sub>H<sub>33</sub> (acyl fatty chain; oleic acid; 18:1); and

wherein  $R_2$  is a mixture of acyl fatty chains, linked to the *sn*-2 position, selected from the group consisting of  $\text{COOC}_{17}\text{H}_{33}$  (acyl fatty chain; oleic acid; 18:1),  $\text{COOC}_{17}\text{H}_{31}$  (acyl fatty chain; Linoleic acid; 18:2),  $\text{COOC}_{19}\text{H}_{31}$  (acyl fatty chain; arachidonic acid; 20:4),  $\text{COOC}_{19}\text{H}_{29}$  (acyl fatty chain; eicosapentaenoic acid; 20:5 ( $\omega$ -3)),  $\text{COOC}_{21}\text{H}_{33}$  (acyl fatty chain; docosapentanoic acid; 22:5),  $\text{COOC}_{21}\text{H}_{31}$  (acyl fatty chain; docosaheptaenoic acid; 22:6 ( $\omega$ -3)).